

~~Claims~~ The invention claimed is:

Claim 1 (canceled): A rotary cutting apparatus for mowing lawns using a plurality of small blades with their plane of rotation rotated between 1 and 90 degrees from the horizontal plane of rotation.

Claim 2 (canceled): A grass guide, working in conjunction with the plurality of small blades in claim 1, which bends and constrains movement of the incoming grass, thereby making it easier to cut the grass.

Claim 3 (canceled): A lawnmower using the rotary cutting apparatus of claim 1, with its plane of rotation adjustably rotated among or between some or all degrees between 1 and 90 and the grass guide of claim 2, wherein a plurality of small electric motors are used for driving the rotary cutting apparatus of claim 1. The rotation of the small blades from the horizontal plane of rotation working in conjunction with the grass guide reduces the size of the blade's cutting area. Additionally, by bending the grass, the grass guide constrains the movement of the grass, thereby making it easier for the plurality of blades to cut the grass. Another advantage is the utilization of a plurality of small blades, which results in a significant savings in required rotational kinetic energy due to the large reduction in mass of the plurality of blades from that of a conventional lawnmower blade.

Claim 4 (canceled): A lawnmower using the rotary cutting apparatus of claim 1, with its plane of rotation fixed at a single degree between 1 and 90 and the grass guide of claim 2, wherein a plurality of small electric motors are used for driving the rotary cutting apparatus of claim 1. The rotation of the small blades from the horizontal plane of rotation working in conjunction with the grass guide reduces the size of the blade's cutting area. Additionally, by bending the grass, the grass guide constrains the movement of the grass, thereby making it easier for the plurality of blades to cut the grass. Another advantage is the utilization of a plurality of small blades, which results in a

significant savings in required rotational kinetic energy due to the large reduction in mass of the plurality of blades from that of a conventional lawnmower blade.

Claim 5 (canceled): A lawnmower as set forth in claim 3 or 4, will be safer due to the use of a plurality of small blades and plurality of small electric motors.

Claim 6 (canceled): A lawnmower as set forth in claim 3 or 4, will be smaller due to the use of a plurality of small blades and plurality of small electric motors.

Claim 7 (canceled): A lawnmower as set forth in claim 3 or 4, will be lighter due to the use of a plurality of small blades and plurality of small electric motors.

Claim 8 (canceled): A smaller and lighter mower as set forth in claims 6 and 7 respectively, will be easier to operate.

Claim 9 (canceled): A smaller and lighter mower as set forth in claims 6 and 7 respectively, will be easier to store.

Claim 10 (canceled): A lawnmower as set forth in claim 3 or 4, will be quieter due to the use of a plurality of small electric motors.

Claim 11 (canceled): A lawnmower using the rotary cutting apparatus of claim 1, with its plane of rotation adjustably rotated among or between some or all degrees between 1 and 90 and the grass guide of claim 2, wherein a single electric motor is used for driving the rotary cutting apparatus of claim 1. The rotation of the small blades from the horizontal plane of rotation working in

in conjunction with the grass guide reduces the size of the blade's cutting area. Additionally, by bending the grass, the grass guide constrains the movement of the grass, thereby making it easier for the plurality of blades to cut the grass. Another advantage is the utilization of a plurality of small blades, which results in a significant savings in required rotational kinetic energy due to the large reduction in mass of the plurality of blades from that of a conventional lawnmower blade.

Claim 12 (canceled): A lawnmower using the rotary cutting apparatus of claim 1, with its plane of rotation fixed at a single degree between 1 and 90 and the grass guide of claim 2, wherein a single electric motor is used for driving the rotary cutting apparatus of claim 1. The rotation of the small blades from the horizontal plane of rotation working in conjunction with the grass guide reduces the size of the blade's cutting area. Additionally, by bending the grass, the grass guide constrains the movement of the grass, thereby making it easier for the plurality of blades to cut the grass. Another advantage is the utilization of a plurality of small blades, which results in a significant savings in required rotational kinetic energy due to the large reduction in mass of the plurality of blades from that of a conventional lawnmower blade.

Claim 13 (canceled): A lawnmower using the rotary cutting apparatus of claim 1, with its plane of rotation adjustably rotated among or between some or all degrees between 1 and 90 and the grass guide of claim 2, wherein an internal combustion engine is used for driving the rotary cutting apparatus of claim 1. The rotation of the small blades from the horizontal plane of rotation working in conjunction with the grass guide reduces the size of the blade's cutting area. Additionally, by bending the grass, the grass guide constrains the movement of the grass, thereby making it easier for the plurality of blades to cut the grass. Another advantage is the utilization of a plurality of small blades, which results in a significant savings in required rotational kinetic energy due to the large reduction in mass of the plurality of blades from that of a conventional lawnmower blade.

Claim 14 (canceled): A lawnmower using the rotary cutting apparatus of claim 1, with its plane of rotation fixed at a single degree between 1 and 90 and the grass guide of claim 2, wherein an internal combustion engine is used for driving the rotary cutting apparatus of claim 1. The rotation of the small blades from the horizontal plane of rotation working in conjunction with the grass guide reduces the size of the blade's cutting area. Additionally, by bending the grass, the grass guide constrains the movement of the grass, thereby making it easier for the plurality of blades to cut the grass. Another advantage is the utilization of a plurality of small blades, which results in a significant savings in required rotational kinetic energy due to the large reduction in mass of the plurality of blades from that of a conventional lawnmower blade.

Claim 15 (canceled): A lawnmower using the cutting apparatus of claim 1, wherein a string-like cutting member is substituted.

Claim 16 (canceled): A lawnmower using the cutting apparatus of claim 1, wherein a wire cutting member is substituted.

Claim 17 (canceled): A lawnmower using the cutting apparatus of claim 1, wherein the plurality of small blades are designed aerodynamically to have very little air resistance.

Claim 18 (new): A rotary cutting apparatus comprising

a plurality of blades, each blade fixed to the end of a drive shaft in substantially perpendicular orientation to the shaft, each shaft projecting downward from a power means at an angle tilted longitudinally between 1 and 90 degrees from vertical,
a grass guide,

a chassis to which said rotary cutting apparatus is affixed, and

a means for effecting movement of the apparatus over a cutting surface.

Claim 19 (new): The rotary cutting apparatus of claim 18, wherein said grass guide bends and constrains grass to be cut by the blades.

Claim 20 (new): The rotary cutting apparatus of claim 18, wherein said angle is adjustably selected from the group consisting of some or all degrees between 1 and 90 degrees from vertical.

Claim 21 (new): The rotary cutting apparatus of claim 18, wherein said angle is fixed at a single degree between 1 and 90 from vertical.

Claim 22 (new): The rotary cutting apparatus of claim 18, wherein said means for effecting movement of the apparatus over a cutting surface comprises

a handle to facilitate manual propulsion of the apparatus over the cutting surface and

a plurality of wheels.

Claim 23 (new): The rotary cutting apparatus of claim 18, wherein said power means comprises a single electric motor.

Claim 24 (new): The rotary cutting apparatus of claim 18, wherein said power means comprises a plurality of small electric motors.

Claim 25 (new): The rotary cutting apparatus of claim 18, wherein said power means consists of an internal combustion engine.

Claim 26 (new): The rotary cutting apparatus of claim 18, wherein said power means consists of a hybrid power source comprising

an internal combustion engine and

one or more electric motors.

Claim 27 (new): The rotary cutting apparatus of claim 23, wherein said motor or motors is powered by a battery or batteries.

Claim 28 (new): The rotary cutting apparatus of claim 24, wherein said motor or motors is powered by a battery or batteries.

Claim 29 (new): The rotary cutting apparatus of claim 23, wherein said motor or motors is powered by

a combination of a battery or batteries and

a solar cell.

Claim 30 (new): The rotary cutting apparatus of claim 24, wherein said motor or motors is powered by

a combination of a battery or batteries and

a solar cell.

Claim 31 (new): The rotary cutting apparatus of claim 23, wherein said motor or motors is powered by a fuel cell.

Claim 32 (new): The rotary cutting apparatus of claim 24, wherein said motor or motors is powered by a fuel cell.

Claim 33 (new): The rotary cutting apparatus of claim 18, wherein said cutting blades are replaceable.

Claim 34 (new): The rotary cutting apparatus of claim 18, wherein said power means is replaceable.

Claim 35 (new): The rotary cutting apparatus of claim 18, wherein said means for effecting movement of the apparatus over a cutting surface is robotic.

Claim 36 (new): The rotary cutting apparatus of Claim 18, wherein the height of said cutting blades relative to the cutting surface is adjustable.